SPECIFICATION

[Title of the Invention]

5 ADVERTISING METHOD AND SYSTEM USING PRINTING APPARATUS

[Brief Description of the Drawings]

FIG. 1 is a block diagram of an advertising system using a printing apparatus, according to a preferred embodiment of the present invention;

10 FIG. 2 is a detailed block diagram illustrating the structure of the host computer shown in FIG. 1;

FIGs. 3A through 3C illustrate a variety of layouts created by the layout setter of FIG. 2;

FIG. 4 is a flowchart illustrating a method of processing document data, the

15 method being included in an advertising method using a printing apparatus, according to a preferred embodiment of the present invention; and

FIG. 5 is a flowchart illustrating a method of processing advertisement data, the method being included in an advertising method using a printing apparatus, according to a preferred embodiment of the present invention.

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[Detailed Description of the Invention]

[Objective of the Invention

[Technical field of the Invention and Prior art belonging to the Field]

The present invention relates to an advertising method and system, and more

25 particularly, to an advertising method and system using a printing apparatus that prints print data including advertisement that is a combination of desired document data and predetermined advertisement data.

Mobile service providers have raced to provide service zones where mobile service users are allowed to use office equipment, such as a printer, a facsimile, and

30 a photocopy machine, without cost. Further, the number of mobile service users who desire to use the service zones has been steadily increased. Accordingly, needs of placing advertisement for free service providers in outputs of such office equipment are growing.

[Technical goal of the Invention]

The present invention provides an advertising method that uses a printing apparatus that allows a user to print document data including advertisement data by converting document data and advertisement data into print data for a document and print data for advertisement, respectively, based on layout information selected by the user, combining the two print data using an overlay method, and printing the combination result.

The present invention also provides an advertising system that is appropriate to an advertising method using a printing apparatus.

[Structure and Operation of the Invention]

According to an aspect of the present invention, there is provided a n advertising method using a printing apparatus comprising the steps of: (a) creating layout information regarding document data and advertisement data to be printed on paper; (b) converting document data into the print data for a document, based on the layout information created in step (a) and printing apparatus setting information, the document data being made using a predetermined application program; (c) creating print data for advertisement by processing advertisement data based on the layout information created in step (a); (d) creating print data including advertisement by combining the print data for a document created in step (b) and the print data for advertisement created in step (c); and (e) printing the print data including advertisement created in step (d).

The advertising method is preferably realized as a computer readable recording medium that records a program that can be executed by a computer. The program includes a first program that creates layout information containing the layouts of document data and advertisement data to be printed on paper, a scale-down ratio of the display size of the document data, and the extent of watermarking, a second program that converts document data into print data for a document based on the layout information and printer set information, the document data being made using a predetermined application program, a third program that creates print data for advertisement by processing predetermined advertisement data based on the layout information, and a fourth program that creates print data including advertisement by combining the print data for a document and the print data for advertisement.

According to another aspect of the present invention, there is provided an advertising system using a printing apparatus comprising: a layout setter that provides layout information regarding document data and advertisement data to be printed on paper; a document data processor that creates print data for a document

5   by converting document data into predetermined printing apparatus description language based on layout information provided by the layout setter, the document data made using a predetermined application program; an advertisement data processor that creates print data for advertisement by processing predetermined advertisement data according to a layout information provided from the layout setter;

10   and a combining unit that combines the print data for a document sent from the document data processor and the print data for advertisement sent from the advertisement data processor to creates print data including advertisement.

The present invention will now be described more fully with reference to the accompanying drawings, in which preferred embodiments of the invention are

15   shown.

FIG. 1 is a block diagram illustrating the structure of an advertising system according to a preferred embodiment of the present invention. The advertising system includes an advertisement server 11, a host computer 15, and a printer 17. The advertisement server 11, a host computer 15, and a printer 17 are connected to

20   one another via a network 13 such as Local Area Network (LAN) or the Internet.

Referring to FIG. 1, the advertisement server 11 provides advertisement data to the host computer 15 via the network 13. In detail, the advertisement server 11 receives a signal which contains a request for advertisement data transmitted from the host computer 15 and provides advertisement data to the host computer 15

25   based on user information detected from a user identifier contained in the signal.

The host computer 15 combines print data for advertisement and print data for a document so as to produce print data including advertisement. The printer 17 prints the print data including advertisement, which is provided from the host computer 15, on paper.

30   FIG. 2 is a detailed block diagram illustrating the structure of the host computer 15 of FIG. 1, according to a preferred embodiment of the present invention. The host computer 15 includes a layout setter 21, a document data processor 22, an advertisement data processor 25, and a combining unit 28. The document data processor 22 includes a document data creating unit 23, and a first converting unit

24, and the advertisement data processor 25 includes a second converting unit 26 and a storage unit 27.

Referring to FIG. 2, the layout setter 21 sets the layouts of the print data for a document and the print data for advertisement to be printed on paper.   For example, a user may select one of first through third layouts shown in FIGs. 3A through 3C.

In the first layout shown in FIG. 3A, (a) shows the original document in which document data 312 is illustrated in the entire area 311 of paper, and (b) shows a document including advertisement in which advertisement data is illustrated in an advertisement area 313 of paper and document data 315, the size of which is reduced is illustrated in a data area 314.   In other words, when the first layout is selected, the layout setter 21 determines the left, right, upper, and lower margins of the paper so as to set the range of the advertisement area 313 and also determines a scale-down ratio of the document data 315.

In the second layout of FIG. 3B, (a) shows the original document in which document data 322 is illustrated in the entire area 321 of paper, and (b) shows a document including advertisement in which document data 325, the size of which is reduced is illustrated in a first area 324 of paper and advertisement data   is illustrated in a second area 323 of the paper.   When the second layout is selected, the layout setter 21 determines a division ratio of the paper, the position of the advertisement data in a divided area of the paper, and a scale-down ratio of the document data 325.

In the third layout of FIG. 3C, (a) shows the original document in which print data 332 for a document is illustrated in the entire area 331 of paper, and (b) shows a document including advertisement in which document data 335 and watermarked advertisement data 334 are illustrated in the entire area 333 of paper.   When the third layout is selected, the layout setter 21 additionally sets the intensity of watermark processing into the advertisement data.

In the document data processor 22, the document data creating unit 23 creates document data using an application program such as a word processor. When a print command is rendered with respect to the document data created by the document data creating unit 23, the first converting unit 24 sends a signal for requesting advertisement data to the second converting unit 26 of the advertisement data processor 25.   Next, when a user selects parameters regarding the size of paper, a printing direction, and so on and one of the first through third layouts set by

the layout setter 21, the first converting unit 24 creates print data for a document by converting the document data into Hewlett-Packard Printer Control Language (PCL) or Adobe postscript page description language, using the selected parameters, according to the selected layout.

5   In the advertisement data processor 25, various types of advertisement data is stored in the storage unit 27. When the first converting unit 24 sends a signal containing a request for advertisement data to the second converting unit 26, the second converting unit 26 converts advertisement data, which is selected and read from the storage unit 27, into print data for advertisement using the selected

10   parameters, according to a selected layout of the first through third layouts set by the layout setter 21. The second converting unit 26 also requests for the advertisement server 11 to provide the advertisement data, via the network 13, and stores the advertisement data provided from the advertisement server 11 in the storage unit 27. Further, the second converting unit 26 may store in the storage unit 27

15   advertisement data, which is transmitted from the advertisement server 11 irrespective of whether the second converting unit 26 makes a request to receive the advertisement data or which is made by a user using an application program such as Photoshop.

The combining unit 28 combines the print data for a document sent from the

20   first converting unit 24 and the print data for advertisement sent from the second converting unit 26 using overlay method so as to produce print data including advertisement as shown in (b) of FIG. 3A, 3B, or 3C, and transmits the print data including advertisement to the printer 17.

FIG. 4 is a flowchart illustrating a method of processing document data, the

25   method being included in an advertising method using a printing apparatus, according to a preferred embodiment of the present invention.

Referring to FIG. 4, the document data creating unit 23 creates document data using an application program such as a word processor in step 41. In step 42, the first converting unit 24 receives a print command with respect to the documents

30   data created in step 41. In step 43, the first converting unit 24 requests the second converting unit 26 of the advertisement data processor 25 to provide advertisement data. In step 44, the first converting unit 24 receives layout information that contains information regarding a layout set by the layout setter 21 and various parameters. In step 45, the document data is converted into print data for a

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document, based on printer set information instructing paper size, a printing direction, and so on and the layout information received in step 44.

FIG. 5 is a flowchart illustrating a method of processing advertisement data, the method being included in an advertising method using a printing apparatus, according to a preferred embodiment of the present invention.

Referring to FIG. 5, the second converting unit 26 receives a signal containing a request for advertisement data from the first converting unit 24 in step 51. In step 52, the first converting unit 24 receives a layout information set by the layout setter 21 and layout information contained in various parameters. In step 53, the advertisement data is converted into print data for advertisement, based on the layout information received in step 52.

The present invention can be embodied as a computer readable code in a computer readable medium. Here, the computer readable medium may be any recording apparatus capable of storing data that can be read by a computer system, e.g., read-only memory (ROM), random access memory (RAM), compact disc (CD)-ROM, a magnetic tape, a floppy disk, an optical data storage device, and so on. Also, the computer readable medium may be a carrier wave that transmits data via the Internet, for example.

[Effect of the Invention]

As described above, according to the present invention, in order to print document data created by an application program, document data and advertisement data are converted into print data for a document and print data for advertisement, respectively, based on layout information selected by a user. Next, the print data for a document and the print data for advertisement are combined using an overlay method and the combination result is printed using a printer. Accordingly, the printer can be used as an advertising medium, and therefore, it is possible to enhance advertisement effect for products at low costs even if free printing services are provided to users.

While this invention has been particularly shown and described with reference to preferred embodiments thereof, it will be understood by those skilled in the art that various changes in form and details may be made therein without departing from the spirit and scope of the invention as defined by the appended claims.